

1 amplifiers that monitor battery voltage and/or current and generate an error signal if the battery  
2 voltage and/or current exceed some predetermined threshold. Additionally, an error amplifier  
3 may be included to monitor input power availability and generate an error signal based on the  
4 charging requirement of the battery balanced with the power requirement of the active system.  
5 These error signals are generally defined herein as feedback control signals 26, and are used to  
6 adjust the duty cycle of a PWM generator. One such battery charger topology is disclosed in  
7 U.S. Application Serial No. DA/948828, entitled "Voltage Mode, High Accuracy Battery Charger",  
8 assigned to the same Assignee, and hereby incorporated by reference in its entirety. In the DA/948828  
9 application, feedback control signals are generated for battery voltage, battery charging current,  
10 and/or available power from the DC source to adjust the duty cycle of the PWM generator,  
11 thereby adjusting power delivered to the battery. Other charge topologies are well-known in the  
12 art, and all such battery charging circuits are deemed interchangeable and equivalent circuitry for  
13 the charge controller 24 of the present invention.

14 As set forth above, a conventional switched mode power supply (SWPS) AC/DC adapter  
15 includes PWM circuitry (generator and controller), power switches and DC/DC converter  
16 circuitry for generating a constant DC source. In the exemplary embodiment, the PWM  
17 controller of the AC/DC adapter is adapted to receive the feedback information generated by the  
18 charge controller 24 to adjust the DC output.

19 Figures 3A, 3B and 3C depict exemplary communication topologies to facilitate  
20 communication between the charge controller 24 associated with the portable system 10 and the  
21 adapter 32 of the present invention. In Figure 3A, the adapter 32' is modified to include a serial  
22 communications interface 38 (e.g., RS232, RS434, Firewire, USB, etc.) to receive a serial  
23 control signal 26' generated by the charge controller. In this embodiment, the feedback control